



# Do you use Portable Diesel Electric Generators?

## Would you like to improve this process in the following areas?

- **Meet environmental compliance regulations.** Eliminate exhaust emissions from diesel-fueled mobile electric power plants (MEPPs). Media areas include air and hazardous waste programs.
- **Improve workers' safety and health.** Reduce worker exposure to air toxins, diesel fuel and petroleum products used for lubrication.
- **Increase productivity.** Reduce the time required to manage environmental compliance requirements.
- **Save money.** Reduce environmental compliance requirement costs and hazardous waste disposal costs.



*Super Flight Line Electrical Distribution System*

*The Super Flight Line Electrical Distribution System (SFLEDS) was designed to replace noisy, diesel fuel exhaust emitting Mobile Electrical Power Plants (MEPPs) used on flight lines. SFLEDS consists of frequency converters, transformers for voltage conversion, and electrical controls. Implementation of this system requires routing extensive lengths of electric lines capable of carrying at least 480V, 60 Hz of electricity. This is converted to flight line requirements ranging from 120V 60Hz for low-voltage equipment to the full load of 480V 60Hz for heavy duty equipment. Aircraft on flight lines generally require 115V 400Hz. Installation of this grid should be performed only by trained electricians. The SFLEDS prototype was installed at NAS North Island. **This equipment is available through the Navy Pollution Prevention Equipment Program (PPEP).***

## How can you achieve these improvements?

Use SFLEDS.

## How does this equipment work?

SFLEDS converts and distributes host facility grid power to flight lines for low-voltage equipment, aircraft and heavy duty equipment.

## How will this equipment save you money?

Once installed, SFLEDS eliminates the need to purchase, maintain and operate MEPPs. The cost is \$300,000. For a complete cost analysis, refer to Joint Service P2 Opportunity Handbook Data Sheet Number 2-III-1.



## Typical Process Flow Diagram



### How can this technology eliminate or reduce pollution?

This technology can eliminate worker exposure to diesel fuel and its fumes. Use will result in the following pollution reductions:

- Eliminate use of diesel fuel powered mobile electric power plants.
- Eliminate the disposal of waste engine oil.

### Which shops can benefit most from this technology?

This technology can be used in processes that require electricity in support of aircraft maintenance operations outside of a hangar. Typical activities include:

- Naval air stations
- Naval aviation depots

### How can this technology reduce regulatory compliance concerns?

This technology eliminates the exhaust emissions generated from burning diesel fuel. Use will result in the following regulatory compliance benefits:

- Decrease in the amount of stored oils stored may drop the facility below threshold amounts requiring a Spill Prevention, Control and Countermeasure Plan under 40 CFR 112.
- May help facilities reduce their generator status and lessen the tasks required to comply under RCRA, 40 CFR 262 (i.e. record keeping, reporting, inspections, transportation, accumulation time and emergency measures).
- May help reduce facility-wide air emissions below applicable major source threshold. (Facilities that are not a major source for any pollutant do not need a Title V permit.)
- May reduce or eliminate local VOC and/or NO<sub>x</sub> compliance requirements in ozone nonattainment and maintenance areas.

### Achieving Environmental Compliance Through Pollution Prevention

Every day the Navy faces the challenge of operating and maintaining the fleet while complying with environmental regulations. This burden can be reduced by using pollution prevention technologies and methods to reduce compliance requirements. This fact sheet is one in a series designed to encourage activities to use pollution prevention technologies and methods. The overall goal of this series is to promote sustained environmental compliance at the lowest life-cycle cost.

### For additional information, contact:

Joint Service P2 Opportunity Handbook Data Sheet Number 2-III-1 (<http://enviro.nfesc.navy.mil/p2library>) and the PPEP Equipment Book (<http://www.lakehurst.navy.mil/p2/main.htm>)

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